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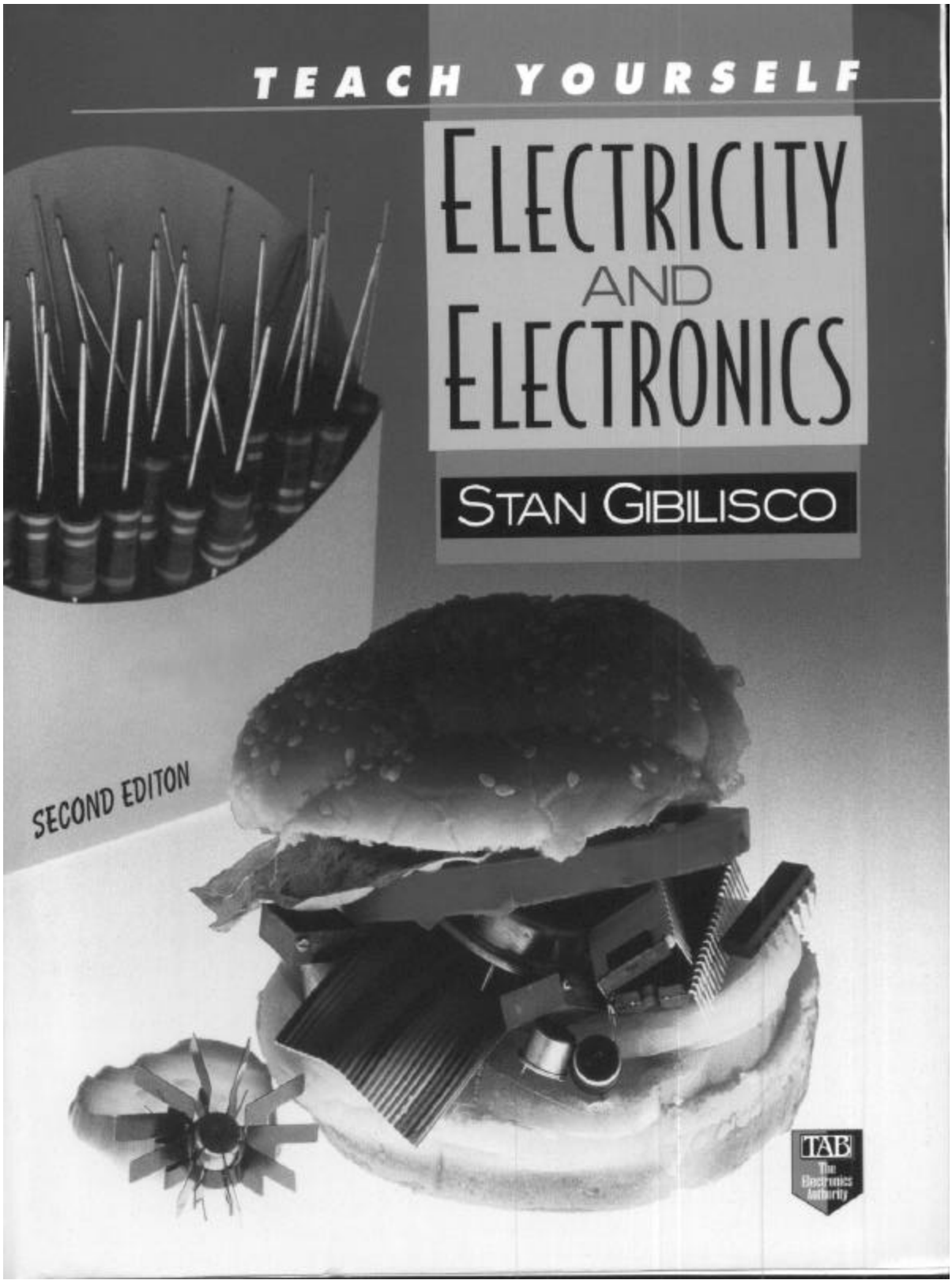

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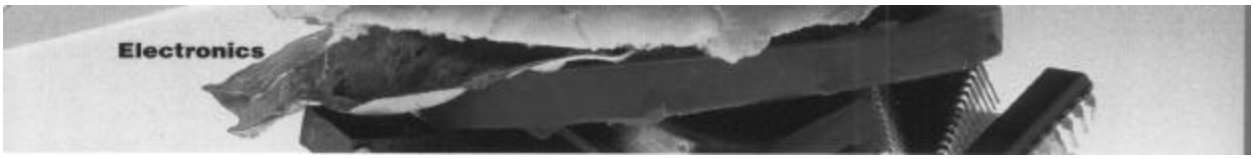

THE AUTHOR OF THE
TAB ENCYCLOPEDIA OF ELECTRONICS FOR TECHNICIANS AND HOBBYISTS
UPDATES THE FIELD'S MOST COMPREHENSIVE, SELF-TEACHING GUIDE.

Teach Yourself Electricity and Electronics has become the standard introduction to the essentials of electricity and electronics. Now Stan Gibilisco, one of the most trusted names in popular electronics, has enhanced his best-selling guide with new chapters on cutting-edge technologies. The Second Edition retains the classic first edition's user-friendly, self-study approach while bringing you practical new information on wireless technologies, computers, and the Internet.

Teach Yourself Electricity and Electronics provides uniquely thorough coverage, ranging from dc and ac concepts and circuits to semiconductors and integrated circuits. Assuming no prior background in electronics, it features a conversational writing style, quizzes, self-tests, and more than 500 illustrations that make learning easier and livelier. In virtually no time at all you'll be able to:

- Make simple current-voltage-resistance determinations
- Accurately calculate power and impedance
- Determine waveform combinations
- Design basic electronic circuits
- Optimize circuit efficiency
- And much more!

At the same time, the book provides new guidance to cellular communications, transducers, wireless LANs and security systems, microprocessors, and, ultimately, cyberspace.

Whether you're a hobbyist, a technician, a professional in an electronics-oriented firm, a student of electronics, or a novice, the new edition of *Teach Yourself Electricity and Electronics* will be an essential reference you'll turn to again and again.

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Contents

Preface ***xix***

Part 1 Direct current

1 Basic physical concepts ***3***
Atoms *3*
Protons, neutrons, and the atomic number *4*
Isotopes and atomic weights *4*
Electrons *5*
Ions *5*
Compounds *9*
Molecules *10*
Conductors *11*
Insulators *11*
Resistors *13*
Semiconductors *14*
Current *15*
Static electricity *15*
Electromotive force *16*
Nonelectrical energy *18*
Quiz *19*

2 Electrical units ***23***
The volt *23*
Current flow *24*

The ampere *26*
Resistance and the ohm *26*
Conductance and the siemens *28*
Power and the watt *29*
Energy and the watt hour *31*
Other energy units *33*
ac Waves and the hertz *34*
Rectification and fluctuating direct current *35*
Safety considerations in electrical work *37*
Magnetism *38*
Magnetic units *39*
Quiz *40*

3 Measuring devices *44*
Electromagnetic deflection *44*
Electrostatic deflection *46*
Thermal heating *47*
Ammeters *48*
Voltmeters *49*
Ohmmeters *51*
Multimeters *53*
FET and vacuum-tube voltmeters *54*
Wattmeters *54*
Watt-hour meters *55*
Digital readout meters *56*
Frequency counters *57*
Other specialized meter types *57*
Quiz *60*

4 Basic dc circuits *65*
Schematic symbols *65*
Schematic diagrams *67*
Wiring diagrams *68*
Voltage/current/resistance circuit *68*
Ohm's Law *69*
Current calculations *69*
Voltage calculations *71*
Resistance calculations *71*
Power calculations *72*
Resistances in series *73*
Resistances in parallel *74*
Division of power *75*
Resistances in series-parallel *75*
Resistive loads in general *77*
Quiz *77*

Jameco Part number 146982

5 Direct-current circuit analysis *82*
Current through series resistances *82*
Voltages across series resistances *83*
Voltage across parallel resistances *85*
Currents through parallel resistances *86*
Power distribution in series circuits *88*
Power distribution in parallel circuits *88*
Kirchhoff's first law *89*
Kirchhoff's second law *91*
Voltage divider networks *92*
Quiz *95*

6 Resistors *99*
Purpose of the resistor *99*
The carbon-composition resistor *102*
The wirewound resistor *103*
Film type resistors *104*
Integrated-circuit resistors *104*
The potentiometer *105*
The decibel *107*
The rheostat *109*
Resistor values *110*
Tolerance *110*
Power rating *110*
Temperature compensation *111*
The color code *112*
Quiz *114*

7 Cells and batteries 118
Kinetic and potential energy *118*
Electrochemical energy *118*
Primary and secondary cells *119*
The Weston standard cell *120*
Storage capacity *120*
Common dime-store cells and batteries *122*
Miniature cells and batteries *124*
Lead-acid cells and batteries *125*
Nickel-cadmium cells and batteries *125*
Photovoltaic cells and batteries *127*
How large a battery? *128*
Quiz *130*

8 Magnetism *134*
The geomagnetic field *134*
Magnetic force *135*

Electric charge in motion *136*
Flux lines *136*
Magnetic polarity *137*
Dipoles and monopoles *139*
Magnetic field strength *139*
Permeability *142*
Retentivity *142*
Permanent magnets *143*
The solenoid *144*
The dc motor *145*
Magnetic data storage *146*
Quiz *149*

Test: Part 1 ***153***

Part 2 Alternating current

9 Alternating current basics ***165***
Definition of alternating current *165*
Period and frequency *165*
The sine wave *167*
The square wave *167*
Sawtooth waves *167*
Complex and irregular waveforms *169*
Frequency spectrum *170*
Little bits of a cycle *172*
Phase difference *173*
Amplitude of alternating current *173*
Superimposed direct current *175*
The ac generator *176*
Why ac? *178*
Quiz *178*

10 Inductance ***183***
The property of inductance *183*
Practical inductors *184*
The unit of inductance *185*
Inductors in series *185*
Inductors in parallel *186*
Interaction among inductors *187*
Effects of mutual inductance *188*
Air-core coils *189*
Powdered-iron and ferrite cores *190*
Permeability tuning *190*

Jameco Part number 146982

Toroids *190*
Pot cores *192*
Filter chokes *192*
Inductors at audio frequency *193*
Inductors at radio frequency *193*
Transmission-line inductors *193*
Unwanted inductances *195*
Quiz *195*

11 Capacitance *199*
The property of capacitance *199*
Practical capacitors *201*
The unit of capacitance *201*
Capacitors in series *202*
Capacitors in parallel *203*
Dielectric materials *204*
Paper capacitors *204*
Mica capacitors *205*
Ceramic capacitors *205*
Plastic-film capacitors *206*
Electrolytic capacitors *206*
Tantalum capacitors *206*
Semiconductor capacitors *207*
Variable capacitors *207*
Tolerance *209*
Temperature coefficient *210*
Interelectrode capacitance *210*
Quiz *211*

12 Phase *215*
Instantaneous voltage and current *215*
Rate of change *216*
Sine waves as circular motion *217*
Degrees of phase *218*
Radians of phase *221*
Phase coincidence *221*
Phase opposition *222*
Leading phase *222*
Lagging phase *224*
Vector diagrams of phase relationships *225*
Quiz *226*

13 Inductive reactance *231*
Coils and direct current *231*
Coils and alternating current *232*

Reactance and frequency *233*
Points in the RL plane *234*
Vectors in the RL plane *235*
Current lags voltage *237*
Inductance and resistance *238*
How much lag? *240*
Quiz *243*

14 Capacitive reactance *247*
Capacitors and direct current *247*
Capacitors and alternating current *248*
Reactance and frequency *249*
Points in the RC plane *251*
Vectors in the RC plane *253*
Current leads voltage *254*
How much lead? *256*
Quiz *259*

15 Impedance and admittance *264*
Imaginary numbers *264*
Complex numbers *265*
The complex number plane *266*
The RX plane *269*
Vector representation of impedance *270*
Absolute-value impedance *272*
Characteristic impedance *272*
Conductance *275*
Susceptance *275*
Admittance *276*
The GB plane *277*
Vector representation of admittance *279*
Why all these different expressions? *279*
Quiz *280*

16 RLC circuit analysis *284*
Complex impedances in series *284*
Series RLC circuits *288*
Complex admittances in parallel *289*
Parallel GLC circuits *292*
Converting from admittance to impedance *294*
Putting it all together *294*
Reducing complicated RLC circuits *295*
Ohm's law for ac circuits *298*
Quiz *301*

Jameco Part number 146982

17 Power and resonance in ac circuits *305*
What is power? *305*
True power doesn't travel *307*
Reactance does not consume power *308*
True power, VA power and reactive power *309*
Power factor *310*
Calculation of power factor *310*
How much of the power is true? *313*
Power transmission *315*
Series resonance *318*
Parallel resonance *319*
Calculating resonant frequency *319*
Resonant devices *321*
Quiz *323*

18 Transformers and impedance matching *327*
Principle of the transformer *327*
Turns ratio *328*
Transformer cores *329*
Transformer geometry *330*
The autotransformer *333*
Power transformers *334*
Audio-frequency transformers *336*
Isolation transformers *336*
Impedance-transfer ratio *338*
Radio-frequency transformers *339*
What about reactance? *341*
Quiz *342*

Test: Part 2 *346*

Part 3Basic electronics

19 Introduction to semiconductors *359*
The semiconductor revolution *359*
Semiconductor materials *360*
Doping *362*
Majority and minority charge carriers *362*
Electron flow *362*
Hole flow *363*
Behavior of a P-N junction *363*
How the junction works *364*
Junction capacitance *366*
Avalanche effect *366*
Quiz *367*

20 Some uses of diodes *370*
Rectification *370*
Detection *371*
Frequency multiplication *372*
Mixing *373*
Switching *374*
Voltage regulation *374*
Amplitude limiting *374*
Frequency control *376*
Oscillation and amplification *377*
Energy emission *377*
Photosensitive diodes *378*
Quiz *380*

21 Power supplies *383*
Parts of a power supply *383*
The power transformer *384*
The diode *385*
The half-wave rectifier *386*
The full-wave, center-tap rectifier *387*
The bridge rectifier *387*
The voltage doubler *389*
The filter *390*
Voltage regulation *392*
Surge current *393*
Transient suppression *394*
Fuses and breakers *394*
Personal safety *395*
Quiz *396*

22 The bipolar transistor *400*
NPN versus PNP *400*
NPN biasing *402*
PNP biasing *404*
Biasing for current amplification *404*
Static current amplification *405*
Dynamic current amplification *406*
Overdrive *406*
Gain versus frequency *407*
Common emitter circuit *408*
Common base circuit *409*
Common collector circuit *410*
Quiz *411*

Jameco Part number 146982

23 The field-effect transistor *416*
Principle of the JFET *416*
N-channel versus P-channel *417*
Depletion and pinchoff *418*
JFET biasing *419*
Voltage amplification *420*
Drain current versus drain voltage *421*
Transconductance *422*
The MOSFET *422*
Depletion mode versus enhancement mode *425*
Common source circuit *425*
Common gate circuit *426*
Common drain circuit *427*
A note about notation *429*
Quiz *429*

24 Amplifiers *433*
The decibel *433*
Basic bipolar amplifier circuit *437*
Basic FET amplifier circuit *438*
The class-A amplifier *439*
The class-AB amplifier *440*
The class-B amplifier *441*
The class-C amplifier *442*
PA efficiency *443*
Drive and overdrive *445*
Audio amplification *446*
Coupling methods *447*
Radio-frequency amplification *450*
Quiz *453*

25 Oscillators *457*
Uses of oscillators *457*
Positive feedback *458*
Concept of the oscillator *458*
The Armstrong oscillator *459*
The Hartley circuit *459*
The Colpitts circuit *461*
The Clapp circuit *461*
Stability *463*
Crystal-controlled oscillators *464*
The voltage-controlled oscillator *465*
The PLL frequency synthesizer *466*
Diode oscillators *467*
Audio waveforms *467*

Audio oscillators *468*
IC oscillators *469*
Quiz *469*

26 Data transmission *474*
The carrier wave *474*
The Morse code *475*
Frequency-shift keying *475*
Amplitude modulation for voice *478*
Single sideband *480*
Frequency and phase modulation *482*
Pulse modulation *485*
Analog-to-digital conversion *487*
Image transmission *487*
The electromagnetic field *490*
Transmission media *493*
Quiz *495*

27 Data reception *499*
Radio wave propagation *499*
Receiver specifications *502*
Definition of detection *504*
Detection of AM signals *504*
Detection of CW signals *505*
Detection of FSK signals *506*
Detection of SSB signals *506*
Detection of FM signals *506*
Detection of PM signals *508*
Digital-to-analog conversion *509*
Digital signal processing *510*
The principle of signal mixing *511*
The product detector *512*
The superheterodyne *515*
A modulated-light receiver *517*
Quiz *517*

28 Integrated circuits and data storage media *521*
Boxes and cans *521*
Advantages of IC technology *522*
Limitations of IC technology *523*
Linear versus digital *524*
Types of linear ICs *524*
Bipolar digital ICs *527*
MOS digital ICs *527*
Component density *529*
IC memory *530*

Jameco Part number 146982

Magnetic media *532*
Compact disks *535*
Quiz *535*

29 Electron tubes *539*
Vacuum versus gas-filled *539*
The diode tube *540*
The triode *541*
Extra grids *542*
Some tubes are obsolete *544*
Radio-frequency power amplifiers *544*
Cathode-ray tubes *546*
Video camera tubes *547*
Traveling-wave tubes *549*
Quiz *551*

30 Basic digital principles *555*
Numbering systems *555*
Logic signals *557*
Basic logic operations *559*
Symbols for logic gates *561*
Complex logic operations *561*
Working with truth tables *562*
Boolean algebra *564*
The flip-flop *564*
The counter *566*
The register *567*
The digital revolution *568*
Quiz *568*

31 Wireless technology *572*
Cellular communications *572*
Satellite systems *574*
Acoustic transducers *577*
Radio-frequency transducers *579*
Infrared transducers *579*
Wireless local area networks *580*
Wireless security systems *581*
Hobby radio *582*
Noise *584*
Quiz *585*

32 Computers and the Internet *589*
The microprocessor and CPU *589*
Bytes, kilobytes, megabytes, gigabytes *591*

Jameco Part number 146982

Preface

This book is for people who want to learn basic electricity, electronics, and communications concepts without taking a formal course. It can also serve as a classroom text. This second edition contains new material covering wireless communications, personal computers, and the Internet.

I recommend you start at the beginning of this book and go straight through. There are hundreds of quiz and test questions to fortify your knowledge and help you check your progress as you work your way along.

There is a short multiple-choice quiz at the end of every chapter. You may (and should) refer to the chapter texts when taking these quizzes. When you think you're ready, take the quiz, write down your answers, and then give your list of answers to a friend. Have the friend tell you your score, but not which questions you got wrong. The answers are listed in the back of the book. Stick with a chapter until you get most of the answers correct. Because you're allowed to look at the text during quizzes, the questions are written so that you really have to think before you write down an answer. Some are rather difficult, but there are no trick questions.

This book is divided into three major sections: direct current, alternating current, and basic electronics. At the end of each section is a multiple-choice test. Take these tests when you're done with the respective sections and have taken all the chapter quizzes. Don't look back at the text when taking these tests. A satisfactory score is 37 correct answers. Again, answers are in the back of the book.

There is a final exam at the end of the book. The questions are practical, mostly nonmathematical, and somewhat easier than those in the quizzes. The final exam contains questions drawn from all the chapters. Take this exam when you have finished all three sections, all three section tests, and all of the chapter quizzes. A satisfactory score is at least 75 percent correct answers.

With the section tests and final exam, as with the quizzes, have a friend tell you your score without letting you know which questions you missed. That way, you can't subconsciously memorize the answers. You might want to take a test two or three times. When you have gotten a score that makes you happy, you can check to see where your knowledge is strong and where it's weak.

It is not necessary to have a mathematical or scientific background in order to use this do-it-yourself course. Junior high school algebra, geometry, and physical science will suffice. I've tried to gradually introduce standard symbols and notations so that it will be evident what they mean as you go along. By the time you get near the end of this book, assuming you've followed it all along, you should be familiar with most of the symbols used in schematic diagrams.

I'd recommend doing a chapter a week. An hour daily ought to be more than enough time for this. That way, in less than eight months, you'll complete the course. You can then use this book, with its comprehensive index, as a permanent reference.

Suggestions for future editions are welcome.

Stan Gibilisco